Remarks

Thorough examination by the Examiner is noted and

appreciated.

The Specification has been amended to correct grammatical errors.

The claims have been amended to clarify Applicants disclosed and claimed invention and to overcome Examiners rejections.

No new matter has been added.

For example, support for the amended claims is found in the Specification e.g., in Figure 1, item 72 with respect to items 60, and 50, and in the Specification at paragraph 0033:

"Other types of torque limiting devices can be used in the present invention. For example the clutch 72 may be a magnetic clutch which uses electromagnetic force to connect input and output shafts; a reactive counter-torque applied to the output shaft which exceeds the applied electromagnetic clutch force results in slippage between the input and output shafts of the clutch. In the illustrated embodiment, where the wheels 68 drive the motor 54 in a regenerative braking mode, it is important that the clutch 72 be of a type capable of transmitting both positive and negative torque. In other words, the clutch 72 must transmit torque from the powertrain 74 to the wheels 68 and from the wheels 68 back to the powertrain 74."

Claim Rejections under 35 USC 112

Claim 9 has been amended to overcome Examiners rejection.

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Claim Rejections under 35 USC 102

1. Claims 1-9 stand rejected under 35 USC 102(b), as being anticipated by Aoyama (JP06094122).

Aoyama discloses a **lock-up clutch** connected to an internal combustion engine (i.e., on a drive motor side of a gear assembly (transmission) connected to the drive train) that can be retained in a coupling state or at a predetermined slip rate to **reversibly drive an internal combustion engine** by torque **originating from** a drive wheel side of the clutch during ordinary deceleration in order to improve fuel efficiency (see Abstract). In operation, when throttle closure is detected, it is then determined whether it corresponds with a sudden deceleration event or an ordinary deceleration event. If a sudden deceleration event is determined, a slip rate of the clutch is increased. If an ordinary deceleration event is determined, the clutch is retained in a coupling state or a predetermined slip rate to **reversibly drive an internal combustion engine** by torque generated on the drive wheel side of the lock-up clutch (see narrative/ constitution).

Aoyama fails to disclose several aspects of Applicants disclosed and claimed invention including:

"A method of limiting reactive torque transmitted from a set of driven traction wheels to a powertrain during a sudden braking event, comprising:

slipping a drive component connection between the traction wheels and the powertrain when the sudden braking event commences, to thereby limit the amount of reactive torque **transmitted from the traction wheels to the powertrain, said drive component disposed within the powertrain downstream of a gear assembly connected to a drive motor.**"

Thus, the disclosure of Aoyama is clearly insufficient to anticipate Applicants disclosed and claimed invention.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"The identical invention must be shown in as complete detail

as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

2. Claim 16 stands rejected under 35 USC 102(b), as being anticipated by Asa (US`5,654,887).

Asa discloses a method for **carrying out an anti-brake locking operation while maximizing regenerative energy to an electric motor** (see Abstract). Asa achieves the foregoing by controlling the **slip of the vehicle motor** (electric induction motor) which is controlled by **changing the frequency of power** for driving the motor (see col 5, lines 49-55) to keep the regenerative energy caused by a braking action at a maximum value which also causes the wheel-to-road frictional value at a maximum value (col 5, lines 30-40, lines 56-60) thereby controlling an anti-brake locking operation by detecting the regenerative energy, independent of vehicle conditions and road conditions, while maximizing regenerative energy to the electric motor (col 5, lines 34-39).

Thus, Asa fails to disclose several aspects of Applicants disclosed and claimed invention including:

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"A drive system for a vehicle, comprising:

a powertrain including at least one electric drive motor, at least one traction wheel; and,

a driveline including a slip clutch, the slip clutch disposed downstream of a gear assembly connected to a drive motor, the slip clutch connecting the powertrain with the drive wheel, the **slip clutch transmitting** positive torque from the powertrain to the drive wheel during normal driving conditions but allowing slipping during a sudden braking event to limit the amount of torque transmitted from the drive wheel to the powertrain caused by braking force applied to the drive wheel."

Thus, the disclosure of Asa is clearly insufficient to anticipate Applicants disclosed and claimed invention.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"The identical invention must be shown in as complete detail

as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim Rejections under 35 USC 103

3. Claims 10-16, 20, 22, and 23 stand rejected under 35 USC 103(a), as being unpatentable over Aoyama, above, in view of Matsubara et al. (US 5,989.156).

Applicants reiterate the comments made above with respect to Aoyama.

Even assuming *arguendo*, a proper motivation for combination other than Applicants disclosure, the fact that Matsubara et al. further teach a **lock-up clutch slip control system where the lock-up clutch is between the engine and in parallel with the transmission** to **minimize output fluctuations of the engine** (prime mover) when **changing from full lock-up to slip control in the clutch** (due to engine output changes) **by further controlling the output of the engine** in response to a change slip control of the clutch **to prevent abrupt torque fluctuations of the engine** (see Abstract; col 1, lines 5-8, lines 27-34, lines 51-col 2-line2; col 4, lines 64-66; col 8, lines 60-65, col 11, lines 46-54), and

further discloses that such a system may be used to suppress torque fluctuations in engines in a hybrid vehicle e.g., where an internal combustion engine and electric motor are combined (col 11, line 61 -col 12, line 7), does not further help Examiner in producing Applicants disclosed and claimed invention or making out a *prima facie* case of obviousness.

"Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." *In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).*

4. Claims 17-19 and 21 stand rejected under 35 USC 103(a), as being unpatentable over Aoyama, in view of Matsubara et al., above, and further view of Jackel (US 5,863,274.

Applicants reiterate the comments made above with respect to Aoyama and Matsubara et al.

Even assuming *arguendo*, a proper motivation for combination other than Applicants disclosure, the fact that Jackel further teaches clutch friction plates and springs for engaging the

friction plates, does not further help Examiner in producing Applicants disclosed and claimed invention or making out a *prima facie* case of obviousness.

"Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." *In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).*

Conclusion

The cited references, either individually or in combination, do not produce Applicants disclosed and claimed invention, and are therefore insufficient to make out a *prima facie* case of obviousness with respect to both Applicants independent and dependent claims.

The Claims have been amended to clarify Applicants invention. A favorable reconsideration of Applicants' claims is respectfully requested.

Based on the foregoing, Applicants respectfully submit that

the Claims are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

In the event that the present invention as claimed is not in condition for allowance for any reason, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,

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